

## CLAIMS

1. A transmitter for transmitting a telecommunications signal, the transmitter having an input for an input signal and an output for a load, said transmitter including:

- 5 - a controlled self oscillating modulator for pulse width modulating the input signal, said controlled self oscillating modulator comprising a comparator and means for generating controlled self oscillations;
- a switching stage for amplification of the pulse width modulated signal, thus generating an amplified pulse width modulated signal;
- a low pass demodulation filter for demodulating the amplified pulse width modulated signal, thus obtaining an output signal to be fed to said transmitter output;
- 10 - a feedback loop from the filter to the transmitter input; and
- means for adjusting an output impedance of the transmitter, the controlled self oscillating modulator and the switching stage forming a controlled self oscillation loop, said controlled self oscillation loop being connected in series to
- 20 the input of the transmitter and the demodulation filter.

2. The transmitter according to claim 1 further comprising an output transformer having a first winding which is connected with one of its ends to the low pass filter, said means for

25 adjusting the output impedance including a sense resistor connected between a reference potential and a connection point at the other of the ends of the first transformer winding, said connection point being connected to the transmitter input.

3. The transmitter according to claim 1, wherein the controlled self oscillations have a frequency in the range of 3 to 10 times the frequency of the telecommunications signal.

4. The transmitter according to claim 1, wherein said load is a digital subscriber line.

5. The transmitter according to claim 1, wherein said load is a coaxial line.

6. The transmitter according to claim 1, wherein said load is a radio antenna.

7. A line card for connection of a telecommunications equipment to a transmission line, wherein said line card comprises a transmitter according to claim 1.

8. A modem for connection of a telecommunications equipment to a transmission line, wherein said modem comprises a transmitter according to claim 1.

9. A method of transmitting a telecommunications signal to a load, the method comprising the steps of:

- Superimposing the telecom signal on a carrier signal into a pulse width modulated signal;
- Amplifying the pulse width modulated signal;
- Inputting the amplified pulse width modulated signal to a controlled selfoscillating modulator;
- Generating said carrier signal in said controlled selfoscillating modulator;

- Inputting the amplified pulse width modulated signal to a low pass filter to generate a demodulated signal;
- Feeding back said demodulated signal and superimposing it on the telecommunications signal;
- 5 - Adjusting an output impedance of the transmitter; and
- Feeding said demodulated signal to the load.

10. The method according to claim 9, wherein the carrier signal has a frequency in the range of 3 to 10 times the frequency of the telecommunications signal.

11. The method according to claim 9, wherein the transmitter comprises an output transformer having a first winding which is connected with one of its ends to the low pass filter and with the other of its ends to a sense resistor which is connected to a reference potential, the method including:

- 15 - sensing a current through the sense resistor;
- performing said adjusting of the output impedance with the aid of said current.

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